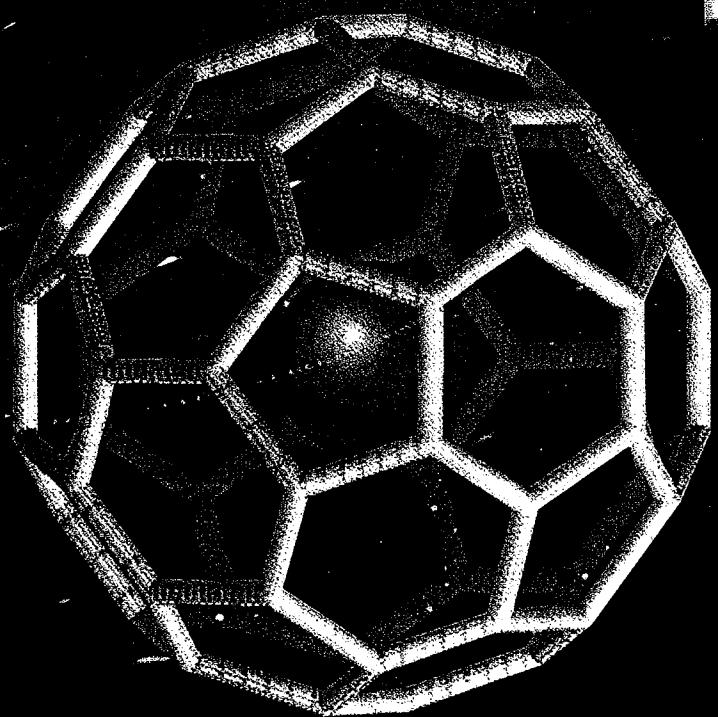


# **Exhibit I**

# McGraw-Hill Dictionary of **SCIENTIFIC** and **TECHNICAL** **TERMS**



Sixth Edition

**On the cover: Representation of a fullerene molecule with a noble gas atom trapped inside. At the Permian-Triassic sedimentary boundary the noble gases helium and argon have been found trapped inside fullerenes. They exhibit isotope ratios quite similar to those found in meteorites, suggesting that a fireball meteorite or asteroid exploded when it hit the Earth, causing major changes in the environment. (Image copyright © Dr. Luann Becker. Reproduced with permission.)**



Over the six editions of the Dictionary, material has been drawn from the following references: G. M. Garrity et al., *Taxonomic Outline of the Prokaryotes*, Release 2, Springer-Verlag, January 2002; D. W. Linzey, *Vertebrate Biology*, McGraw-Hill, 2001; J. A. Pechenik, *Biology of the Invertebrates*, 4th ed., McGraw-Hill, 2000; *U.S. Air Force Glossary of Standardized Terms*, AF Manual 11-1, vol. 1, 1972; F. Casey, ed., *Compilation of Terms in Information Sciences Technology*, Federal Council for Science and Technology, 1970; *Communications-Electronics Terminology*, AF Manual 11-1, vol. 3, 1970; P. W. Thrush, comp. and ed., *A Dictionary of Mining, Mineral, and Related Terms*, Bureau of Mines, 1968; *A DOD Glossary of Mapping, Charting and Geodetic Terms*, Department of Defense, 1967; J. M. Gilliland, *Solar-Terrestrial Physics: A Glossary of Terms and Abbreviations*, Royal Aircraft Establishment Technical Report 67158, 1967; W. H. Allen, ed., *Dictionary of Technical Terms for Aerospace Use*, National Aeronautics and Space Administration, 1965; *Glossary of Stinfo Terminology*, Office of Aerospace Research, U.S. Air Force, 1963; *Naval Dictionary of Electronic, Technical, and Imperative Terms*, Bureau of Naval Personnel, 1962; R. E. Huschke, *Glossary of Meteorology*, American Meteorological Society, 1959; *ADP Glossary*, Department of the Navy, NAVSO P-3097; *Glossary of Air Traffic Control Terms*, Federal Aviation Agency; *A Glossary of Range Terminology*, White Sands Missile Range, New Mexico, National Bureau of Standards, AD 467424; *Nuclear Terms: A Glossary*, 2d ed., Atomic Energy Commission.

**McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS,  
Sixth Edition**

Copyright © 2003, 1994, 1989, 1984, 1978, 1976, 1974 by The McGraw-Hill Companies, Inc. All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of the publisher.

1 2 3 4 5 6 7 8 9 0      DOW/DOW      0 8 7 6 5 4 3 2

ISBN 0-07-042313-X

**Library of Congress Cataloging-in-Publication Data**

McGraw-Hill dictionary of scientific and technical terms--6th ed.

p. cm.

ISBN 0-07-042313-X (alk. paper)

1. Science--Dictionaries. 2. Technology--Dictionaries. I. Title: Dictionary of scientific and technical terms.

Q123.M15      2002  
503—dc21

2002026436

## nontropical sprue

ferric ion is essentially complete. Also known as chloropal; gramineite; morencite; pinguite. { 'nän-trä,ñit }

**nontropical sprue** *See* gluten enteropathy. { ,nän,träp-ə-kel 'sprü }

**nonuniform flow** [FL MECH] Fluid flow which does not have the same velocity at all points in a medium, at a given instant. { 'nän-yü-nä,förm 'flö }

**nonuniform memory access machine** [COMPUT SCI] A multiprocessor in which the memory is spread out over memory modules, which are attached to the processors, so that each processor has its own memory module. Abbreviated NUMA machine. { ,nän-yün-i,förm 'mem-rë 'ak-sës më,shën }

**nonvenereal syphilis** [MED] Syphilis not acquired during sexual intercourse. { 'nän-vë,nir-ë-el 'sif-ə-lës }

**nonviscous flow** *See* inviscid flow. { 'nän,vis-kës 'flö }

**nonviscous fluid** *See* inviscid fluid. { 'nän,vis-kës 'flu-ëd }

**nonviscous neutral** [MATER] A neutral petroleum-derived oil with viscosity less than 135 SSU (Saybolt Seconds Universal) at 100°F (38°C). { 'nän,vis-kës 'nü-träl }

**nonvolatile memory** *See* nonvolatile storage. { 'nän'väl-ə-töl 'mem-rë }

**nonvolatile random-access memory** [COMPUT SCI] A semiconductor storage device which has two memory cells for each bit, one of which is volatile, as in a static RAM (random-access memory), and provides unlimited read and write operations, while the other is nonvolatile, and provides the ability to retain information when power is removed. Abbreviated NV RAM. { 'nän'väl-ə-töl 'ran-däm 'ak,sës 'mem-rë }

**nonvolatile storage** [COMPUT SCI] A computer storage medium that retains information in the absence of power, such as a magnetic tape, drum, or core. Also known as nonvolatile memory. { 'nän'väl-ə-töl 'stör-ij }

**nonwetting** [MET] Of a metal or alloy, when it is molten, not adhering to or wetting the surface of a diamond which is to be set. { 'nän,wed-ing }

**nonwetting phase** [PETRO ENG] The oil phase contained in a reservoir pore structure when the reservoir fluid is two-phase (oil and water) or three-phase (oil, water, and gas). { 'nän,wed-ing 'fáz }

**nonwetting sand** [GEOL] Sand that resists infiltration of water; consists of angular particles of various sizes and occurs as a tightly packed lens. { 'nän,wed-ing 'sand }

**nonwork unit** [IND ENG] A time unit on a schedule during which work may not be performed on a given activity, for example, a weekend or a holiday. { 'nän'wörk,yü-not }

**nonwoven fabric** [TEXT] Cloth produced from a random arrangement or matting of natural or synthetic fibers held together by adhesives, heat and pressure, or needling; felt is an example. { 'nän,wöv-ən 'fab-rik }

**nonyl acetate** [ORG CHEM]  $C_9H_{17}OOCCH_3$  Any of a family of isomers, such as *n*-nonyl acetate and diisobutyl carbinyl acetate, which are products of Fischer-Tropsch and oxo syntheses. { 'nä,nil 'as-ë,tät }

**n-nonyl acetate** [ORG CHEM]  $CH_3COO(CH_2)_8CH_3$  Alcohol-soluble, colorless liquid with pungent odor; boiling point 208–212°C; used in perfumery. { 'en 'nä,nil 'as-ë,tät }

**n-nonyl alcohol** [ORG CHEM]  $CH_3(CH_2)_7CH_2OH$  One of a family of  $C_9H_{19}OH$  isomers; a colorless liquid with rose aroma; boils at 215°C; insoluble in water; soluble in alcohol; used in perfumery and flavorings. { 'en 'nä,nil 'al-kä,höl }

**nonyl benzene** [ORG CHEM]  $C_9H_{19}C_6H_5$  Liquid boiling at 245–252°C; straw-colored with aromatic aroma; used to make surface-active agents. { 'nä,nil 'ben,zen }

**1-nonylene** [ORG CHEM]  $C_9H_{18}$  Colorless liquid boiling at 150°C; soluble in alcohol; insoluble in water; used as a chemical intermediate. Also known as nonene. { 'wän 'nän-ə,lëñ }

**nonyl hydride** *See* nonane. { 'nän'əl 'hi,drid }

**nonyl phenol** [ORG CHEM]  $C_9H_{19}C_6H_5OH$  Pale-yellow liquid boiling at 283–302°C; soluble in organic solvents, insoluble in water; mixture of monoalkyl phenol isomers, mostly para-substituted; used to make surface-active agents, resins, and plasticizers. { 'nä,nil 'fe,nol }

**nonylphenoxyacetic acid** [ORG CHEM]  $C_9H_{19}C_6H_4OCH_2COOH$  A viscous, amber-colored liquid, soluble in alkali; used in turbine oils, lubricants, greases, and other materials as a corrosion inhibitor. { 'nä,nil 'fe,näk-së-ə'sëd-ik 'as-ëd }

**nonyne** [ORG CHEM]  $CH_3(CH_2)_6=CCH$  Water-insoluble, colorless liquid boiling at 160°C. { 'nö,nin }

**no observed effect level** [MED] The highest dose at which

no effects can be observed; used as a measure of chronic toxicity. { 'nö əb'zärvd i'fekt ,lev-əl }

**noon** [ASTRON] The instant at which a time reference is over the upper branch of the reference meridian. { nün }

**noon constant** [NAV] A predetermined value added to a meridian or ex-meridian sextant altitude to determine the latitude. { 'nün 'kän-stänt }

**noon interval** [ASTRON] The predicted time interval between a given instant, usually the time of a morning observation, and local apparent noon; it is used to predict the time for observing the sun on the celestial meridian. { 'nün 'in-tar-val }

**noon sight** [NAV] 1. Measurement of the altitude of the sun at local apparent noon. 2. The altitude so measured. { 'nün ,sít }

**NO OP** [COMPUT SCI] An instruction telling the computer to do nothing, except to proceed to the next instruction in sequence. Also known as do-nothing instruction; no-operation instruction. { 'nö,äp }

**no-operation instruction** *See* NO OP. { 'nö,äp-ə-rä-shen 'in-träk-shen }

**noosphere** *See* anthroposphere. { 'nö-ə,sfër }

**nopinene** *See* pinene. { 'nä,pä,nén }

**nor-** [CHEM] Chemical formula prefix for normal; indicates a parent for another compound to be formed by removal of one or more carbons and associated hydrogens. { nor }

**NOR** [MATH] A logic operator having the property that if P, Q, R, ... are statements, then the NOR of P, Q, R, ... is true if all statements are false, false if at least one statement is true. Derived from NOT-OR. Also known as Peirce stroke relationship. { nor' }

**noradrenaline** *See* norepinephrine. { 'nör'ad'ren-ə-lëñ }

**noradrenergic system** [NEUROSCI] A system of neurons that is responsible for the synthesis, storage, and release of the neurotransmitter norepinephrine. { 'nör'ad'ren'or jik 'sis-tëm }

**norbergite** [MINERAL]  $Mg_2SiO_4(F,OH)_2$  A yellow or pink orthorhombic mineral composed of magnesium silicate with fluoride and hydroxyl; it is a member of the humite group. { 'nör,bär,gët }

**NOR circuit** [ELECTR] A circuit in which output voltage appears only when signal is absent from all of its input terminals. { 'nör,sör-kët }

**Norden bombsight** [ORD] A gyroscopically stabilized synchronizing bombsight used mainly for synchronous bombing but useful for fixed-angle bombing. { 'nörd-en 'bäm,sít }

**nordenskiöldine** [MINERAL]  $CaSn(BO_3)_2$  A colorless, or sulfur-, lemon-, or wine-yellow, hexagonal mineral consisting of a borate of calcium and tin; occurs in tabular form and as lenslike crystals. { 'nörd-en,shëld-dëñ }

**Nordenskjöld line** [CLIMATOL] The line connecting all places at which the mean temperature of the warmest month is equal (in degrees Celsius) to  $9 - 0.1k$ , where  $k$  is the mean temperature of the coldest month (in degrees Fahrenheit) it becomes  $51.4 - 0.1k$ . { 'nörd-en,shëld,lin' }

**Nordheim's rule** [SOLID STATE] The rule that the residual resistivity of a binary alloy that contains mole fraction  $x$  of one element and  $1 - x$  of the other is proportional to  $x(1 - x)$ . { 'nörd,hümz,rü'l }

**nordihydroguaiaretic acid** [ORG CHEM]  $C_{18}H_{22}O_4$  A crystalline compound with a melting point of 184–185°C; soluble in alcohols, ether, acetone, glycerol, and propylene glycol; used as an antioxidant in fats and oils. Abbreviated NDGA. { 'nör-di'hö,dro'gwi,ë:red-ik 'as-ëd }

**nordmarkite** [PETR] A quartz-bearing alkalic syenite that has microperthite as its main component with smaller amounts of oligoclase, quartz, and biotite and is characterized by granitic or trachytoid texture. { 'nörd,mär,kit' }

**nor'easter** *See* northeaster. { 'nör'ë-stör' }

**norepinephrine** [BIOCHEM]  $C_8H_{11}O_3N$  A hormone produced by chromaffin cells of the adrenal medulla; acts as a vasoconstrictor and mediates transmission of sympathetic nerve impulses. Also known as noradrenaline. { 'nör'ep-ə'në-frëñ }

**Norian** [GEOL] A European stage of Upper Triassic geologic time that lies above the Carnian and below the Rhaetian. { 'nör-ë-ən' }

**norite** [PETR] A coarse-grained plutonic rock composed